

## Command and Control versus Open-Ended Discovery: The Case of Human Longevity

Statement Prepared for the Senate Special Committee on Aging  
*The Future of Longevity: How Vital are Markets and Innovation?*

June 3, 2003

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### **I. Introduction**

Thank you Mr. Chairman and Senator Breaux for the opportunity to add my comments to the record. I am Peter Boettke, Director of the Global Prosperity Initiative at the Mercatus Center and Professor of Economics at George Mason University. I have spent my career investigating the basic question: “Why are some countries rich, while others are poor” particularly with respect to those countries that are now referred to as Transitioning and Less Developed. The following views are my own, and should not be attributed to George Mason University, or the Mercatus Center.

Modern man benefits from medical care that was denied even the wealthiest man in society a mere 100 years ago. Today the average male or female born in a Western democracy can be expected to live well into their 70s, while the Kings and Queens of the past were born into a situation where the average life expectancy was half that. Infant mortality has declined drastically even in the past half-century in countries such as the UK

and US. This presents us with a dilemma, as Roy Porter points out in his *The Greatest Benefit to Mankind: A Medical History of Humanity* (1997, 715): “Never has it achieved so much or attracted such suspicion. The breakthroughs of the last fifty years have saved more lives than those of any epoch since medicine began.” Yet at the same time, the longer we live the more likely we will fall ill and be in need of medicine. “Longer life means more time to be ill, and medicine is more open to criticism.” (ibid, 716) Our demand for medical miracles increases as our life is expanded by miraculous medical discoveries. “The irony is that the healthier western society becomes, the more medicine it craves.” (ibid, 717)

In spite of this irony, there can be no denying that citizens of the western democracies have experienced a tremendous increase in their health and well-being over the last century. This is not true for their counterparts in less developed countries and transition economies. Life expectancy, infant mortality, nutritional intake, and sanitation are positively correlated with economic freedom, and negatively correlated with government control over economic decision-making.

## **Innovation**

The reason for this is straightforward. Market oriented societies are by necessity societies which encourage open-ended discoveries in science and technology. The price system, and its profit and loss barometer, guide decentralized economic actors toward the efficient use of resources and spur innovation. Today’s inefficiencies are tomorrow’s profit opportunities for whoever can discover the best way to address the problem. Economic actors within a market society are continuously experimenting on how best to produce products that satisfy the consumer demands of others. Many, perhaps most, of these experiments end in failure, but for those who succeed financial rewards are to be had. Every

act of entrepreneurship is essentially a wishful conjecture. The profit and loss system ensures that these wishful conjectures are both rewarded and disciplined. We get, as a result, a process of open-ended discovery of new and better ways to realize the gains from exchange, while ensuring that resources used in failed experiments will be reallocated toward more productive endeavors.

Command and control societies, on the other hand, attempt to eradicate inefficiencies and social ills through conscious design. Decision-making is centralized, and economic experimentation is truncated. As a result, innovation is restricted, and the gains from exchange are not fully realized. Ultimately, the main difference between command and control versus open-ended discovery is that the market economy generates wealth creation, while the command and control of government does not.<sup>1</sup> And this generation of wealth, or lack of, has profound consequences on the way in which individuals are able to live full and flourishing lives. Even a small increase in economic freedom leads to real gains and the slightest retreat has tangible consequences.

## **Longevity**

Human longevity I contend is a function of four factors: (1) increases in economic productivity which has lowered the human physical effort required to produce output, (2) increases in technological and productive efficiency which conserves resources and reduces the environmental damage associated with economic activity, (3) increases in medical knowledge (including detection of disease and treatment), and (4) innovations in medical technology (procedures and equipment). These factors are interrelated and find their

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<sup>1</sup> For a documentary history of the debate between socialism and capitalism see Boettke, ed., *Socialism and the Market Economy: The Socialist Calculation Debate Revisited*, 9 volumes (2000).

common cause in the open society of competitive markets. It is generally appreciated that a free market society generates sustained economic growth more consistently than alternative systems. It is less appreciated that this economic growth is a main cause of our increasing longevity due to reductions in arduous labor, improvements in the environments in which we live, and the creation of the material means to pursue remote ends such as medical research. It is my thesis that the command and control approach to economic policy has not replicated the experience of more open societies, in terms of material progress and medical innovation. As a result, the Lesser Developed and Transition Economies are not only capital starved, but nutritionally impoverished, disease riddled, and subject to harmful and unhealthy environmental conditions.

## **II. The Quintessential Command and Control Approach – the Soviet Union**

The costs to humanity of the communist experiment in the Soviet Union are unfortunately not always appreciated. We know of the tyranny of Stalinism, though perhaps fewer people know the magnitude of Stalin's crimes against humanity than should be the case. Moreover, it is important to recognize that the crimes against humanity began with Lenin and continued through to Gorbachev. Stalin was not a detour. The fundamental problems of communism in theory and practice were not in the poor selection of leaders, but in the economic irrationality of the Soviet system. The economic irrationality of the Soviet system meant that economic rationales for resource use gave way to political rationales – and with that the problems associated with concentrating power in the hands of a few.

The Soviet Union suffered significant losses of human life due to conscious decisions by leaders during War Communism (1918-1921), Collectivization and the Great Purges (1930s), and World War II (1940-45) to sacrifice these individuals for the good of the

revolution or 'Mother Russia'. But the costs in terms of human lives lost under communist rule in the Soviet Union was not limited to these policies of exterminations, however horrific they were. The environmental degradation that resulted from the forced industrialization dictated by central planning created unhealthy conditions for work and for living. Water was contaminated, the land destroyed, and the air polluted in the name of industrialization. The costs in terms of health of Soviet citizens is thoroughly documented in Murray Feshbach and Alfred Friendly's *Ecocide in the USSR* (1992).

The former Soviet Union simply failed to provide for its citizens. Decent medical care or housing, or even the basic nutritional necessities of life, could not be had by the average Soviet citizen through official channels. Data on health and human services document this point in gruesome detail. From 1964 to the mid-1980s, life expectancy had fallen from 67 to 62 for men and from 76 to 73 for women (see Boettke 1993, 36; Eberstadt 1988). The death rate of children in their first year of life was 22.9 per thousand in 1971, but the Soviet Union alone among industrialized nations, saw that rate rise to 25.4 in 1987, and probably a more accurate rate of 33 per thousand in 1989.<sup>2</sup>

If we look at the plight of LDCs, the picture is also grim indeed. As William Easterly points out in his *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics* (2001), the "infant mortality rate in the richest fifth countries is 4 out of every 1,000 births; in the poorest fifth of countries, it is 200 out of every 1,000 births." (Easterly 2001, 8). In low-income countries disease is both more prevalent and more dangerous due to less medical knowledge, poor nutrition and less access to medical care. Easily preventable

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<sup>2</sup> As Feshbach and Friendly point out, traditional Soviet practice, contrary to international standards, counted premature and underweight babies as miscarriages rather than live births. Record keepers often falsified data to report death after first birthdays instead of before. Moreover, deaths in the first year have been underreported by an estimated 86 percent in part of Central Asia, and up to 50 percent in the Russian Republic. Given the prevalence of underreporting of the infant mortality rate, Feshbach and Friendly conclude that it is perhaps a conservative estimate to scale infant mortality upward by 50 percent. Thus, the official rate in 1989 being 22 deaths per thousand live births to 33 deaths per thousand. Feshbach and Friendly (1992, 5).

and/or treatable diseases such as tuberculosis, syphilis, diarrhea, polio, measles, meningitis, river blindness and intestinal worms go untreated. It is estimated that two million children die every year from dehydration caused by diarrhea, and three million from bacterial pneumonia. Somewhere between 170 million to 400 million children are infected every year with intestinal parasites. The tragedy in all of this is that the medicines needed to alleviate these diseases are often extremely inexpensive – as low as ten cents a dose to alleviate dehydration and vaccinations against many diseases would cost about fifteen dollars per child. This fact simply highlights the wretched poverty of LDCs.

The answer, however, is not command and control attempts at development. As Easterly's book documents, all the attempts at development planning in the 20<sup>th</sup> century have failed. Instead, the greatest hope for the world's poor is integration into the world market economy. The quest is not for higher per capita GDP for its own sake, but for less dying babies, starving children, and oppression of the disenfranchised.

### **III. Open Society and Economic Growth**

Open societies do not suffer the plight of the Less Developed Countries or the Transition Economies. Utopia is not an option in the real world, and thus Western democracies have their problems. But as compared to the less developed regions of the world our daily struggle for survival is minimal. The market economy has generated so much wealth that we are able to address questions of environmental damage, treat disease with medicine and prolong life with surgery and other medical technologies. The material means generated by a market society enable us, in other words, to pursue other ends as we so desire; not just live longer lives, but to make the most of our longer lives.

If we look at the various indexes of Economic Freedom that have developed over the past decade --- e.g., The Fraser Institute and the Heritage Foundation/Wall Street Journal Index of Economic Freedom – we find that economic growth is positively correlated with measures of economic freedom, that is, market orientation. Sustained economic growth is not mysterious – secure property rights, low levels of taxation and regulation, open trade, fiscal prudence and stable money provide the basic ingredients for an economic miracle. This is just a more developed statement of what Adam Smith wrote in his 1755 notebooks which eventually became *The Wealth of Nations*: “Little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism, but peace, easy taxes, and a tolerable administration of justice; all the rest being brought about by the natural course of things. All governments which thwart this natural course, which force things into another channel, or which endeavor to arrest the progress of society at a particular point, are unnatural, and to support themselves are obliged to be oppressive and tyrannical.” (Smith 1982, 322). In the context of the modern measure of economic freedom, move up on the score of Economic Freedom and your per capita growth rate rises and your society progresses, move down on this score by further restricting your economy and your wealth declines and social progress ceases.

In the context of our current discussion, this relates to providing the material pre-conditions that enable individuals to live long and flourishing lives. If we look at the data on economic freedom and economic growth, and then economic growth and various measures of human well-being we find a positive correlation. (see Boettke 2002, 266-284) Simply put -- wealthier is healthier.

#### IV. Conclusion

I have argued that an open-society, with its market economy, is a pre-requisite for generating the incentives for economic actors to use resources efficiently and discover better uses of those resources through time. The market economy spurs entrepreneurs to improve technological efficiency, which as a by-product reduces the onerous nature of work, and improves environmental quality. In other words, technological innovations make it less costly to produce the same output as before in terms of both human effort and resource use. For example, in the US, atmospheric emissions per constant \$1,000 of GDP have been declining by approximately 4.6% per year since before WW II - from 380 pounds per \$1,000 of GDP in 1940 to 60 pounds in 1988. Emissions per capita during those years also declined, from 1.1 tons per person to 0.5 tons. Energy consumption declined per constant \$1,000 of GDP, at the rate of 1% per year. The reasons for this, I would argue, are (a) Market competition, which rewards innovation and efficiency, and (b) Environmental quality is a luxury good and thus the demand for it goes up as economic development and wealth increases in a society.

We have seen that life expectancy is positively correlated with economic growth. The causal story that I have suggested is that we are living longer, more active and enjoyable lives because the open-ended discovery process of the market society enables us to (a) work less and in less onerous occupations, (b) improve the environment in which we work and live, (c) enjoy the benefits of improved medical knowledge, and (d) reap the benefits of advances in medical technology.<sup>3</sup> It is well recognized that the capitalist system ruthlessly promotes

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<sup>3</sup> To contrast with the former Soviet Union again, as Feshbach and Friendly point out, "In a country where, as in the United States, cardiovascular disease is the leading cause of death, there were only 130 angiogram devices in operation in 1988, and only 60 of them were of recent manufacture. X-ray machines could only be found in half of all hospitals and polyclinics, and only 2 percent of such institutions had the machinery to do ultrasound diagnosis." (Feshbach and Friendly 1992, 6).



efficiency, and generates wealth. Unfortunately, the benefits in terms of human betterment that capitalism brings are underappreciated. The market economy, with the lure of pure profit, compels us to realize the mutual gains from exchange with one another. In terms of the health and human services, it is the competition to do well by doing good that leads to innovations in terms of early detection, treatments, drugs, procedures, and technology that plays a major role in our ability to live longer, more active, and ultimately more enjoyable lives.

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